DOCUMENT RESUME

ED 371 421 CS 508 600

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TITLE Teacher Immediacy and Power in the Classroom: The Application of Implicit Communication Theory.
PUB DATE 31 Oct 92
NOTE 41p.; Paper presented at the Annual Meeting of the International Communication Association (42nd, Miami, FL, May 20-25, 1992). For an earlier treatment of this study, see ED 346 532.
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Academic Achievement; *Classroom Communication; Communication Research; Higher Education; Questionnaires; Regression (Statistics); *Teacher Behavior; *Teacher Student Relationship; Undergraduate Students
IDENTIFIERS Communication Strategies; Implicit Communication; *Power Strategies; *Teacher Immediacy

ABSTRACT

Teacher immediacy and use of power have surfaced as important instructional communication variables, yet little is known about how they function to effect learning. To offer an explanation as to how teacher immediacy and use of power facilitates learning, a study investigated implicit communication theory. Subjects consisted of 625 undergraduate students who completed questionnaires later subjected to regression analyses. Results indicated that: (1) verbal and nonverbal teacher immediacy were associated with learning; (2) teachers who employed positive messages to gain compliance in the classroom were more effective, according to student perceptions; (3) students who felt pleasure and arousal also self-reported more learning; and (4) teachers who employed immediate and prosocial behavior alteration techniques provoked in their students increased feelings of pleasure and arousal. Findings permit greater clarification of the previously established relationship between teacher immediacy and power in the classroom. Specifically, perceptions of power cues are mediated by teacher immediacy behaviors through student emotions. By explaining how teacher and immediacy and power function, implicit communication theory offers increased conceptual coherency. Results suggest that the application of implicit communication theory to instructional variables is potentially fruitful. (Contains 48 references and 12 tables of data.) (RS)

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Teacher Immediacy and Power in the Classroom: The Application of Implicit Communication Theory

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A paper presented at the
Speech Communication Association Conference, Chicago, Illinois
October 31, 1992

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ABSTRACT

Teacher immediacy and use of power behaviors have surfaced as important instructional communication variables, yet little is known about how they function to effect learning. To offer an explanation as to how teacher immediacy and use of power function to facilitate learning, implicit communication theory is investigated. Subjects consisted of 625 undergraduate students who completed questionnaires later subjected to regression analyses. As in previous research, teacher verbal and nonverbal immediacy and use of power significantly effects cognitive and affective learning. Findings indicate that implicit communication theory helps explain why learning occurs. Specifically, the dimensions of pleasure and arousal accounted for over half of learning variance. Further, implicit communication theory is significantly related to both teacher immediacy and power. Results suggest that the integration of implicit communication theory with learning in general and specific instructional variables such as teacher immediacy and power is appropriate and fruitful.

Teacher Immediacy and Power in the Classroom:

The Application of Implicit Communication Theory

Teacher immediacy and use of power in the classroom are perhaps the most popular research variables to emerge in instructional communication research in the past two decades. Results from programmatic research of teacher immediacy and power make clear the importance of these variables to teachers and learners alike. Yet despite the vitality of these two research streams, little is known about how these specific teacher behaviors function to enhance learning. The purpose of this paper is to apply implicit communication theory as a paradigm which would explain the increased learning that results from a teacher's use of immediacy and power behaviors. A brief overview of immediacy and power research is offered followed by a description of implicit communication theory and its application to the teaching and learning process.

Immediacy

Andersen (1978) defined teacher immediacy as "the nonverbal behavior manifestations of high affect" (1978). She found that teacher immediacy accounted for a major portion of the variance in affect toward the instructor, affect toward course content, affect toward behaviors recommended, and likelihood of enroling in another course of the same nature (Andersen, 1978; 1979; 1984; Andersen & Andersen, 1982; 1987; Andersen, Norton, & Nussbaum, 1981; Andersen & Withrow, 1981).

Teacher immediacy consists of behaviors that are easily prescribed (Andersen, 1978; Gorham, 1988 Sanders & Wiseman, 1990). Following Andersen's primary research, much replication has validated her initial findings; teacher immediacy has been repeatedly associated with student learning. Some of the most important and provocative findings for teacher immediacy are noted below:

1) Verbal teacher immediacy increases student cognitive learning (Christophel, 1990; Gorham, 1988; Gorham & Christophel, 1990; Kelley & Gorham, 1988; Gorham & Zakahi, 1990; Richmond, McCroskey, Kearney & Plax, 1985; Sanders & Wiseman, 1990).

2) Verbal teacher immediacy increases student affective and behavioral learning (Christophel, 1990; Gorham, 1988; Gorham & Christophel, 1990; Gorham & Zakahi, 1990; Plax, Kearney, McCroskey & Richmond, 1986; Powell & Harville, 1990; Sanders & Wiseman, 1990; Woolfolk & Woolfolk, 1974).

3) Nonverbal teacher immediacy increases student cognitive learning, and information recall (Allen & Shaw, 1990; Christophel, 1990; Goorham, 1988; Gorhaam & Christophel, 1990; Kelley & Gorham, 1988; Gorham & Zakahi, 1990; Powell & Harville, 1990; Richmond, 1990; Richmond, Gorham & McCroskey, 1986; Richmond et al., 1985; Sanders & Wiseman, 1990).

4) Nonverbal teacher immediacy increases affective learning (Allen & Shaw, 1990; Andersen, 1978,1979; Andersen, Norton, & Nussbaum, 1981; Andersen & Withrow, 1981; Christophel, 1990; Kearney, Plax & Wendt-Wasco, 1985; Gorham, 1988; Gorham & Christophel, 1990; Gorham & Zakahi, 1990; McDowell, McDowell & Hyerdahl, 1980; Plax, Kearney, McCroskey & Richmond, 1986; Plax, Kearney & Wendt-Wasco, 1985; Powell & Harville, 1990; Richmond, 1990; Rodgers & McCroskey, 1984; Sanders & Wiseman, 1990; Stewart & Wheeless, 1987).

5) Nonverbal teacher immediacy increases students' perceptions of teacher effectiveness (Andersen, Norton & Nussbaum, 1981; Collier & Powell, 1989; Sorensen, 1989.

6) Nonverbal teacher immediacy plays a mediating role in the reception and effectiveness of teacher control strategies (Kearney, Plax & Wendt-Wasco, 1985; Kearney, Plax, Smith & Sorensen, 1988; McCroskey, Richmond, Plax & Kearney, 1985; Plax et al., 1986; Richmond, McCroskey, Kearney & Plax, 1985.

7) Verbal and nonverbal teacher immediacy is significantly and positively related to perceptions of teacher clarity (Powell & Harville, 1990).

8) Teacher immediacy produces a reciprocal liking among teacher and student (Chaiken, Gillen, Derlega, Heinen & Wilson, 1978; Kearney, Plax, Smith & Sorensen, 1988; Plax, Kearney, McCroskey & Richmond, 1986).

Additional evidence supports such findings across divergent grade levels (McDowell, McDowell & Hyerdahl, 1980; Plax, Kearney, McCroskey, & Richmond, 1986). and ethnicities (Powell & Hargrove, 1990; Sanders & Wiseman, 1990), different course types (Kearney, Plax & Wendt-wasco, 1985., and modified or nontraditional classroom structures (Andersen, 1979; Kearney, Et al., 1985; Stewart & Wheeless, 1987).

One of the purposes of this investigation is to offer additional verification of previous teacher immediacy research. Toward this end, the following hypothesis will be tested:

H1: Verbal and nonverbal teacher immediacy will be significantly and positively related to student cognitive and affective learning.

Power

The use of power by individuals to get compliance from others has been systemmatically studied by social scientists as early as the 1950's (Lippitt, Polansky & Rosen, 1952; Rosen, Lippitt & Levinger, 1953; Gold, 1958). One early study (Gold, 1953) applied power to the classroom to analyze how children manipulate one another in that context. Programmatic research of teacher use of power in the classroom, however, is a relatively new phenomenon, spanning only the last decade. In several initial studies McCroskey and Richmond (1983; 1984) investigated teacher effectiveness in the context of how teachers use power. Programmatic research since then has been prolific and fruitful, allowing for the following generalizations:

1) Communicative strategies or Behavior Alteration Techniques (BAT's) are employed by teachers in the classroom to exert power over students (Kearney, Plax, Richmond & McCroskey, 1984; McCroskey, Richmond, Plax & Kearney, 1985; Plax, Kearnney, McCroskey & Richmond, 1986; Richmond, McCroskey, Kearney & Plax, 1987).
2) Use of positive or prosocial BAT's lead to higher student affect toward the instructor (McCroskey et al., 1985; Plax et aal., 1986, Richmond, 1990).
3) Prosocial BAT's are related to increases in perceived student cognitive learning (Richmond et al., 1987; Richmond, 1990) and affective learning (McCroskey et al., 1985: Plax et al., 1986; Richmond, 1990). .

4) Students perceive teacher use of pro- and antisocial power in the classroom (McCeroskey & Richmond, 1983; Richmond & McCroskey, 1984).

5) Teacher power usage is mediated by teacher nonverbal immediacy (Plax et al., 1986).

6) Student affect is effected by teacher selection of BAT's and student's perceptions of teacher nonverbal immediacy (Plax et al., 1986).

7) Prosocial BAT's are viewed by teachers as more effective in the classroom than are antisocial BAT's (Kearney et al., 1984)

8) Teacher use of BAT's effect student motivation toward learning (Richmond, 1990)

To offer additional support for findings from this program of research, the following hypothesis is offered:

H2: Behavior alteration techniques will be significantly related to student cognitive and affective learning.

Although results from research in teacher immediacy and power have made some useful generalizations possible, little is known about why and how teacher immediacy and power functions to increase learning; we know these variables effect learning but we don't know why or how learning is mediated. One explanation of how they function to increase student learning may be gleaned by returning to the theoretical framework from which these variables first were removed. By placing teacher immediacy and power within the larger framework of implicit communication theory the present study aims to provide an explanation of the way teacher immediacy and power functions to increase learning.

Implicit Communication Theory

Messages operate on two levels; explicit and implicit. Explicit messages cary the content, while implicit messsages convey emotions and feelings. Implicit communication theory considers the effects of implicit messages on one's emotions. Emotions manifest themselves in a positive or negative attitude toward the subject. Behaviors of approaching or avoiding a subject are bassed on these attitudes. Put most simply, one persues things which one likes; one likes things which one

feels positive emotions for; One's emotions are determined by the implicit messages one receives (Biggers, 1992).

Understanding and interpreting emotions can be difficult. Implicit communication theory makes use of a three factor approach to understanding emotions familiar to both antequity and presnet scientific research. As early as 700 B. C., ancient sanscrit hymns referred to a three strand approach to understanding reality (Atharva-Veda). The Bhagavad-Gita (Circa 200-500 B. C.) further clarifies these three dimensions as sattva, rajas, and tamas; goodness, energy, and darkness. Modern research in various contexts has pointed to this tripartite of meaning. Interpersonal needs have been delineated in terms of affection, inclusion, and control (Schutz, 1900). Persuasion theory points to direction, intensity, and salience of attitudes, beliefs, and values (Kiesler, Collins & Miller, 1969)). Within Psychology, the three factors have been described as follows: Level of pleasantness-unpleasantness, Level of activation, Level of aggression (Bush, 1973); Evaluation, Activity, and Potency (Osgood, Suci, and Tannembaum, 1957); Pleasure, Arousal, and Dominance (Mehrabian, 1981). Given the wide range application of a three factor approach to understanding, interpreting classroom interactions in terms of three dimensions is theoretically supported.

Recent evolutions of thought on interpretations of meaning was developed by Mehrabian (1981), and has been subsequently labeled Implicit Communication Theory. Mehrabian defines implicit communication as "aspects of speech [that] are not dictated by correct grammar but are rather expressions of feelings and attitudes above and beyond the contents conveyed by speech (p.2)." He classifies such aspects of communication as head nods, use of personal space, facial expression, and body posture as well as paralinguistic features of communication such as tone, rate, pitch, and volume as 'implicit' messages because they are often unintentional expressions of underlying emotions. When emotions are not expressed explicitly through words and overt behaviors, they often manifest themselves in the form of implicit messages to which others consciously or subconsciously respond. Thus, implicit communication is a concept that makes sense out of subtle interactions among people.

Implicit communication theory offers an explanation for an individual's emotional response based upon the way they perceive "information about feelings and like-dislike or attitudes" from others (Mehrabian, 1981, p. 3). Mehrabian (1981) holds that all emotional states may be adequately described in terms of three independent dimensions: 1) pleasure-displeasure, 2) arousal-nonarousal, and, 3) dominance-submissiveness. Each dimension is of a continuous nature and has within its range positive and negative values as well as a neutral point. Combinations of various values on each dimension characterize different emotions.

Pleasure-displeasure

The pleasure-displeasure dimension is defined by adjective pairs like happy-unhappy, pleased-annoyed, or satisfied-unsatisfied. Psychological indication of this dimension is the presence or absence of a longing to approach the subject or object (Mehrabian, 1981). Behavioral indications for this dimension are smiles, laughter, and positive facial expressions (Mehrabian, 1980). Generally, stimuli which produce greater pleasure elicit greater liking (Mehrabian, 1981).

Arousal-nonarousal

The arousal-nonarousal dimension is defined by adjective pairs like stimulated-relaxed, excited-calm, or frenzied-sluggish. Psychological indication of this dimension is mental alertness (Mehrabian, 1981). Behavioral indications for this dimension are physical activity levels (Mehrabian, 1980). The arousal dimension modifies emotional reactions to stimuli by exaggerating the reaction of liking or disliking. For example, if a stimulus is found pleasurable and arousing, it will be liked more than if it is found pleasurable but nonarousing. Conversely, if a stimulus is found displeasurable and arousing, it will be liked less than if it is found displeasurable and nonarousing (Mehrabian, 1981).

Dominance-submissiveness

The dominance-submissiveness dimension is defined by adjective pairs like controlling-controlled, influential-influenced, or in control-cared for (Mehrabian, 1981). Psychological indications of this dimension are feelings of power and control (Mehrabian, 1981). Behavioral indications for this dimension are found in a relaxed posture, body lean, reclining angle while

seated, or asymmetrical positioning of the limbs (Mehrabian, 1980). Generally, emotions of greater dominance result in an increased license or permission to acknowledge liking or disliking. Alternately, emotions of submissiveness result in decreased license to acknowledge liking or disliking (Mehrabian, 1981).

Combinations of these three dimensions are necessary and sufficient to describe all emotions (Mehrabian, 1981). Fluctuating values for the dimensions of pleasure and arousal effect the degree to which we feel liking. We feel more or less license to acknowledge those feelings based upon the dimension of dominance-submissiveness. Mehrabian (1981) asserts that these three dimensions are central to a larger framework he calls implicit communication theory.

Mehrabian (1981, p. 9) speculated that implicit communication theory can be useful in explaining why learning occurs when he noted: "Our judgments of objects, events, or people on the three dimensions of evaluation, activity and potency are very basic, fundamental aspects of our cognitive functioning." Researchers have suggested that teacher immediacy (Gorham, 1988) and teacher power (Richmond, 1990) can be understood within the larger framework of implicit communication theory. Beebe and Biggers (1990) suggest the application of implicit communication theory to explain why specific low inference teacher behaviors such as increased immediacy or use of power result in student learning. Yet, to date there has been no scientific investigation of the applicability of implicit communication theory to learning.

In a study investigating implicit communication theory's ability to explain the effects of speech delivery variations on perceived source credibility and receiver comprehension, Beebe and Biggers' (1988) findings indicate that emotions, as defined by implicit communication theory, play an important role in the perceptions of credibility, and to a lesser degree, comprehension.

This successful application of implicit communication theory to speaker variables suggests that similar applications can be made to teacher-student interactions. The third hypothesis in this study addresses the presumed relationship among implicit communication theory as measured by student emotional response and learning:

H3: Pleasure, arousal and dominance will be significantly and positively related to student cognitive and affective learning.

A key purpose of the present study is to shed some light upon how teacher immediacy and power usage functions to increase student learning. Beebe and Biggers (1990) argue that the effects of teacher variables on learning may be explained using the approach metaphor central to implicit communication theory. In reviewing relevant literature in instructional communication, they theorize that teacher immediacy, enthusiasm, solidarity, nonverbal communication, communicator style, use of humor, and power can all be explained within the context of student approach behaviors.

Reuniting teacher immediacy and power with the approach metaphor central to implicit communication theory will provide insights into how teacher immediacy and power in the classroom functions. The importance of clarity can be noted in Andersen, Norton, and Nussbaum's (1981) remarks: "Whatever the starting point, this relationship between what is behaviorally done and what is cognitively perceived is crucial before practical suggestions can result from this line of research" (p. 391). Placed within a theoretical framework, more conceptual and operational clarity will become possible for teacher immediacy and power. Grounding teacher variables in a theoretical frame that explains how they function offers more than just explanative power; it offers increased heuristic power as well.

Conceptually, teacher immediacy and use of power may increase learning by effecting students' liking for the instructor and/or course (Andersen, 1978, 1979). Liking as an attitude can be operationalized in terms of a combination of Mehrabian's three dimensions of emotion. Increases in pleasure, arousal and dominance levels may signal this student liking (Mehrabian, 1981). Thus, teacher immediacy and certain power strategies (BAT's) may function by eliciting emotional responses conducive to learning.

Based upon implicit communication theory assumptions, student perceptions of instructor use of immediacy and power should be correlated with student liking as operationalized by increases in pleasure, arousal and dominance. This relationship might be expressed in terms of student

emotions co-varying with perceived teacher immediacy and power behaviors. Beebe and Biggers (1990, p.18) explain: "If the teacher communicates liking through approach then the student must feel pleasure, arousal and dominance as well because he/she then approaches both the teacher and the class material."

Accordingly, then, teacher immediacy and power cues would involve a three-part process: First, teachers' emotions are communicated implicitly as teacher immediacy and power behaviors and are observed by students. Second, students feel increased or decreased pleasure, arousal and dominance characteristic of increased or decreased l'king . Third, liking manifests itself in approach behaviors (learning) in the classroom. Correspondingly, disliking results in avoidance behaviors. Given these assumptions, the following two hypotheses are forwarded:

H4: Pleasure, arousal, and dominance will account for more variance in student cognitive and affective learning than will verbal and nonverbal teacher immediacy.

H5: Pleasure, arousal, and dominance will account for more variance in student cognitive and affective learning than will behavior alteration techniques.

METHOD

Subjects

Participants consisted of 625 undergraduate student volunteers of preexisting, intact introductory communication courses at a southwestern university.

Instrument

Booklets were distributed in introductory speech classes during weeks twelve and thirteen of a fifteen-week semester to ensure that an adequate amount of time had passed for subjects to form opinions about their instructors and courses. Subjects were asked to consider their preceding class as they completed the instrument. Items consisted of instructor demographic items, subject demographic items, and scales addressing the independent (teacher immediacy behaviors and BAT's) and dependent (cognitive and affective learning measures) variables. Several other items were included that were part of a separate study, making the instrument 13 pages in length. Subjects completed the instrument in fifteen to twenty minutes.

Measures

The variables of interest to the present investigation were: emotional state across three dimensions, pleasure, arousal, and dominance; verbal and nonverbal teacher immediacy; Behavior Alteration Techniques, and cognitive and affective learning. Each will be discussed separately.

Emotional State

Emotional state of subjects was operationalized by semantic differential measures of emotional state developed by Mehrabian (1972), reported in Mehrabian & Russell (1974). These scales are presented in Table 13 consisted of 18 pairs of bipolar adjectives that describe emotion. The scales are grouped into three dimensions (Pleasure, Arousal, and Dominance) with six items each. These scales have indicated adequate reliability in previous research. One study reported reliability coefficient alpha estimates of .73 for pleasure, .88 for arousal, and .75 for dominance (Beebe & Biggers, 1986). Similar reliability has been reported elsewhere (Mehrabian & Russell, 1974; Biggers, Beebe & Masterson, 1984; Beebe & Biggers, 1988).

Immediacy

Teacher immediacy was operationalized in two ways: nonverbal teacher immediacy behaviors were measured with scales developed by Andersen, (1978) and verbal teacher immediacy behaviors were measured with scales developed by Gorham (1988). Total teacher immediacy was operationalized by the combination of both scales, producing thirty Likert-type five-step items (from 0 = never to 4 = very often) characterizing teacher verbal and nonverbal immediate behaviors. The 17 verbal items of the scales have demonstrated a split-half reliability of .94, and the 13 nonverbal items have demonstrated a split-half reliability of .84 (Gorham, 1988).

Behavior Alteration Techniques

Behavior Alteration Techniques were measured employing procedures consistent with those of Plax, Kearney, McCroskey, and Richmond (1986). Subjects completed 22 items specially designed for application to college instructors (Plax et al., 1986). For each item subjects were asked to indicate on a 1 to 5 Likert-type scale "how frequently your teacher uses statements of each

type to get you to change your behavior in the classroom." Lower scores corresponded to lower frequency for each statement.

Learning

Learning was operationalized according to previous research (Gorham, 1988; Sanders & Wiseman, 1990) to insure consistency in interpreting results. To measure learning, scales that reflect cognitive, affective, and behavioral gains were employed and will be explained separately below.

Cognitive Learning

Cognitive learning was operationalized in two ways; learning and learning-loss. Learning was measured by asking students to assess their own learning in the previous class. Subjects were first asked: "On a scale of 0-9, how much did you learn in the class (0 means you learned nothing and 9 means you learned more in this class than in any other)?" Next, to measure learning-loss, subjects were asked: "How much do you think you could have learned in the class if you had the ideal instructor?" The numerical value of a response from the first question was subtracted from the value of the second to yield a "learning-loss" score. This method has successfully assessed cognitive learning in prior research (Gorham, 1988; Richmond, Gorham & McCroskey, 1987; Richmond, McCroskey, Kearney & Plax, 1985).

Affective Learning

Affective learning was operationalized in nine ways: (1) attitude toward content; (2) attitude toward behaviors recommended; (3) attitude toward instructor; (4) behavioral intent for behaviors recommended; (5) behavioral intent for similar course enrollment; (6) behavioral intent for same teacher enrollment; (7) overall attitude; (8) overall behavioral intent; and (9) total affect. This procedure is based on previous research (Gorham, 1988; McCroskey, Richmond, Plax & Kearney, 1985). Noteworthy is the operationalization for behavioral learning in terms of behavioral intent, or the likelihood of engaging in the learned behaviors in the future, rather than the acquisition and development of specific skills. Behavioral learning was operationalized accordingly to replicate previous research (Gorham, 1988; Sanders & Wiseman, 1990).

Attitude toward content, attitude toward behaviors recommended, and attitude toward instructor were measured by three seven-step bipolar adjective scales employed by McCroskey, Richmond, Plax, & Kearney (1985). Values for the three scales were summed to create a measure for overall attitude. Behavioral intent for engaging in behaviors recommended, behavioral intent for enrolling in a similar course, and behavioral intent for enrolling for the same teacher were similarly measured by three seven-step bipolar adjective scales employed by McCroskey, Richmond, Plax & Kearney (1985). Values for these three scales were summed to create a measure for overall behavioral intent. Total affect was measured by summing the values for overall attitude and overall behavioral intent. Previous research has found this measure to be highly reliable, producing a split-half reliability coefficient of .98 (Gorham, 1988).

Other Measures

Subjects were also asked to indicate whether the class was in their major or intended major, the amount of time in that class the instructor, student, and no one talked, and the sex and ethnicity of the instructor. This demographic information was collected both to control for extraneous variables and to replicate previous research methods (See Tables 2& 3; Gorham, 1988; Sanders & Wiseman, 1990). Additionally, subjects completed three other items to be included in a future study: The General Inventory of Immediacy (Andersen, 1979); Compliance-Gaining Strategies developed by Plax, Kearney and Tucker (1986); and the nature of the course subject according to "Person" or "Task" orientation (Kearney, Plax, & Wendt-wasco, 1985). All responses were anonymous.

Instrument

The instrument consisted of 625 booklets distributed and completed during one class period falling between weeks twelve and thirteen of a fifteen-week semester. Choosing weeks 12 and 13 for data collection is consistent with previous research (Andersen, 1979; Gorham, 1988; Sanders & Wiseman, 1990), and was employed here to ensure proper replication. A total of 606 booklets were correctly completed and analyzed. Nineteen booklets were omitted from data analysis because they were not fully completed.

Data Analysis

Hypotheses 1: Immediacy

To determine the validity of previous research (Gorham, 1988; Sanders & Wiseman, 1990) concerning verbal and nonverbal teacher immediacy and learning, multiple regression analyses were conducted. The predictor variables were the total scores for verbal and nonverbal teacher immediacy scales. The criterion variables were the two cognitive learning measures (learning and learning-loss), and three affective measures: overall attitude (attitude toward content, behaviors recommended, and instructor) overall behavioral intent (behavioral intent for behaviors recommended, similar course enrollment, and same teacher enrollment) and total affect. Further clarification of results was obtained by examining simple Pearson correlations.

Hypothesis 2: Power.

To determine the validity of previous research (Plax et al., 1986) that concluded that substantial correlations exist between Behavior Alteration Techniques and affective learning, simple Pearson correlations were calculated for BAT's and learning measures. As in prior research only correlations of a magnitude of at least .20 were considered significant and meaningful.

Hypothesis 3: Implicit Communication Theory

To determine the extent to which implicit communication theory is predictive of learning, multiple regression analyses were conducted. The independent variables were scores for emotion dimensions of pleasure, arousal, and dominance. The dependent variables were the five learning measures (learning, learning loss, overall attitude, overall behavioral intent, and total affect) employed by Gorham (1988). Further clarification of results was obtained by examining simple Pearson correlations.

Hypothesis 4: Immediacy and Implicit Communication Theory

To determine whether pleasure, arousal, and dominance are stronger in accounting for student learning than verbal and nonverbal teacher immediacy, forced step-wise multiple regressions were conducted. On the independent variable side of each model, pleasure and arousal were forced into the regression model first in order of largest beta weight, followed by teacher verbal and nonverbal

immediacy. Dominance was omitted from the equation because it failed to reach significance as a predictor variable. Pleasure, and arousal scores as well as verbal and nonverbal teacher immediacy scores were treated as predictor variables, while each of the learning measures (learning, learning loss, overall attitude, overall behavioral intent, and total affect) were analyzed as criterion variables. This procedure has been employed in previous research of a related nature (Richmond, 1990). Further clarification of results was obtained by examining simple Pearson correlations.

Hypothesis 5: Power and Implicit Communication Theory

To determine the extent to which pleasure, arousal, and dominance are stronger in accounting for student learning than are Behavior Alteration Techniques, step-wise multiple regression analyses was conducted and decomposed. The predictor variables were the 22 BAT's, pleasure and arousal. The criterion variables were learning and learning loss, and the nine affective learning measures.

Criteria for Significance

As in previous research, the large sample size produced high power in correlations (Gorham, 1988). To offset type one error, probability level was set at .001 for all correlations. By considering only those correlations achieving an alpha of .001 as significant, the probability of statistically significant yet meaningless results should be reduced.

RESULTS

Reliability of Measures

As reported in Table 1, verbal teacher immediacy obtained a reliability alpha of .88 which is well within an acceptable range . Nonverbal teacher immediacy reliability was likewise acceptable with an alpha of .79. The reliability estimates in the present study are similar to previous research (Gorham, 1988).

Table 1 here

Additional reliability estimates were calculated for each of the three emotion domains. Reliability for the pleasure dimension was found to be .85. The coefficient for arousal was .72, and for dominance was .36. Due to its lack of reliability, the dominance dimension was not included in the forced step-wise multiple regressions involved in the third hypothesis of this study. For the purposes of future replication results for the dominance factor was included elsewhere throughout this study.

Reliability estimates were also calculated for the dependent measures of learning. All were within an acceptable range and similar to previous research findings (Andersen, 1978; Gorham, 1988; Sanders & Wiseman, 1990).

Total affect was regressed by several extraneous variables. All multiple regression analyses yielded nonsignificant and seemingly random results and are reported in Table 2.

Table 2 here

For teacher talk time, gender, and ethnicity, student ethnicity, gender, age, and classification and other variables results were nonsignificant and meaningless. Table 3 reports mean scores accorking to class size.Class size was also dismissed as meaningless.

Table 3 here

Hypothesis 1: Immediacy

The combined effects of verbal and nonverbal teacher immediacy were significantly and positively related to variance in learning outcomes, with verbal teacher immediacy proving the strongest contributor in each case. All multiple regression analyses for hypothesis 1 yielded meaningful results and are summarized in Tables 4 & 5. Generally, the amount of variance accountable varied depending on the criterion variable, and ranged from .38 for attitude toward the instructor to .10 for intention of enrolling in similar courses in the future.

Tables 4 & 5 here

Hypothesis 2: Power

This hypothesis was supported. Six separate Behavior Alteration Messages were significantly related to both measures of cognitive learning, and are reported in Table 6. The BAT's that correspond to these messages are, in order of largest significant magnitude, Teacher Feedback, Immediate Reward from Behavior, Self Esteem, Punishment from Teacher, Legitimate-Higher Authority, and Deferred Reward from Behavior.

Table 6 here

Nine Behavior Alteration Messages were significantly related to affective learning as reported in Table 7. The BAT's that correspond to these messages are, again in order of largest significant magnitude, Immediate Reward from Behavior, Self Esteem, Teacher Feedback, Deferred Reward from Behavior, Punishment from Teacher, Legitimate-Higher Authority, Legitimate Teacher-Authority, Reward from Teacher, and Punishment from Behavior.

Table 7 here

Hypothesis 3: Implicit Communication Theory

The third hypothesis in the present study suggests that there is a correlation between student emotional response to teachers and student learning. Results support this hypothesis and are reported in Table 8. Multiple regressions indicate that for all cognitive and affective learning measures, pleasure accounts for most of the variance, followed by arousal. The combined variance (R square) in learning measures accounted for by pleasure and arousal ranged from 32 to 50 percent, and is highly significant.

Table 8 here

To further investigate the relationships among pleasure and arousal with the learning measures, simple Pearson correlations were calculated and are reported in Table 9. The pleasure items that correlated with learning in order of greatest magnitude were 1, 3, 5, 2, and 6. The

arousal items that correlated with learning were 6, 5, and 4. The dominance dimension was not significant undoubtedly due to the lack of a reliable measure for this dimension.

Table 9 here

Hypothesis 4: Immediacy and Implicit Communication Theory

Hypothesis four was confirmed; student emotion accounted for more variance in student cognitive and affective learning than did teacher verbal and nonverbal immediacy. All forced step-wise multiple regressions using learning measures as dependent variables were significant. Table 10 summarizes the amount of variance in each of the learning measures accounted for by each regression. In all models the forced steps were in this order: pleasure, arousal, nonverbal teacher immediacy, and verbal teacher immediacy. All regressions achieved a level of significance of at least .0001 at the first step. The total variance accounted for ranged from 26 to 52 percent.

Table 10 here

Pleasure, arousal, and verbal teacher immediacy explained approximately 55 percent of the variance for attitude. Although hypothesized, dominance, and to some extent arousal, were not strong predictors.

To further investigate the emotion scale items' relationship with verbal and nonverbal teacher immediacy items, simple Pearson correlations were calculated and are reported in Table 11. The verbal teacher immediacy items that correlated strongly with pleasure, in order of importance, were 14, 8, 11, 13, 7, 2, 12, 9, and 5. The nonverbal teacher immediacy items that correlated strongly with pleasure were, in order of importance, 12, 3, 5, 12, 6, 11, 2, and 8. The verbal teacher immediacy items that correlated strongly with arousal were, in order of importance, 14 and 7. One nonverbal teacher immediacy item, 13, correlated strongly with arousal. Correlations for dominance were low and nonsignificant.

Table 11 here

Hypothesis 5: Power and Implicit Communication theory

The fifth hypothesis of the present study suggests that a combination of teacher use of Behavior Alteration Techniques and student emotional response will account for more cognitive and affective student learning than either variable alone. The results support this hypothesisand are reported in Table 12. In step-wise multiple regressions, Pleasure accounted for the most variance in both cognitive and affective learning measures, followed significant but largely meaningless contributions from arousal and BATs' 2, 5, 12, 13, 22, 6, and 7.

Table 12 here

DISCUSSION

Reliability of Measures

Reliability for the pleasure dimension was deemed acceptable (r=.85). The reliability of the arousal dimension was lower than expected but still acceptable (r=.72). However, the reliability for the dominance dimension was well below an acceptable level (r=.36). It appears that asking students to indicate whether they feel more "awed" or "important" in the setting of a classroom is confusing and may indicate that this dimension is inappropriate in this context.

Students may be overtly aware of dominance-submissiveness in the classroom due to the nature of the classroom environment. If students see teachers as powerful and themselves as powerless. students may find that questions regarding dominance and submissiveness make little sense when operationalized as they were in the present study.

Students may also have misunderstood what was meant by the adjective pairs corresponding to dominance used in this study. Words employed in the dominance items such as controlling, influential, important, guided, and controlled for example, may lend to confusion over whether the scale is referring to student perceptions of instructor characteristics or their own feeling state in that classroom.

The lack of reliability for the dominance dimension may point to the inappropriateness of the construct in the classroom. However, concluding that the dominance dimension does exist in the

classroom is anchored in theory and research. The tripartite of pleasure, arousal, and dominance have been found to transcend specific contexts theoretically and operationally (Mehrabian & Russell, 1974). Further, strong evidence of the dominance dimension has emerged in classroom power and humor research (c.f. Civikly 1989; Richmond, 1990). Yet students may need help recognizing dominance in the classroom before they can assess their feelings for this domain. In the classroom context, where an implicit power relationship exists which favors the instructor, students may take issues of dominance for granted, or see them as moot points. Thus, it is possible that students did not understand inquiries into dominance without examples or more explanation.

Hypothesis 1: Immediacy

This hypothesis was confirmed. Results of correlations for teacher verbal and nonverbal teacher immediacy with learning roughly reproduce those of Gorham (1988) and others identified in Table 5.1. Thus verbal and nonverbal teacher immediacy are again associated with learning.

Findings for verbal and nonverbal teacher immediacy replicated Gorham (1988) with one major exception, teacher use of humor. Gorham found that the use of humor was "of particular importance" (p.47), correlating .51 with total affect and .39 with learning. In the present study humor correlated substantially lower (.26 with total affect and .23 with learning). Gorham & Zakahi's (1990) replication of Gorham's (1988) research found humor to be significantly correlated with only one measure of cognitive learning. Gorham and Zakahi's finding that humor did not correlate above .30 for any of the affective measures is in line with the present findings. Thus, in three studies, presumably employing like methods, three separate findings for humor were found. Future research should address these discrepancies.

The findings for hypothesis 1 are useful in prescribing effective behaviors to those interested in becoming more effective teachers. Unfortunately, listing behaviors and not providing reasons for how they function is not intellectually stimulating or indicative of a solid, mature body of theory and research. Teachers would benefit from more information than a "just do it" explanation.

Hypothesis 2: Power

This hypothesis was confirmed. As in previous research (McCroskey et al, 1985; Plax et al, 1986; Richmond, 1990; Richmond et al, 1987) prosocial BAT's are correlated with student self-perceptions of cognitive and affective learning. Teachers who employ positive messages to gain compliance in the classroom are more effective, according to students perceptions. Exactly why this relationship among certain BAT's and learning exists is not clear without applying assumptions of an underlying theoretical framework.

Hypothesis 3: Implicit Communication Theory

This hypothesis was confirmed. The relationship among student emotion and learning may be summarized as: students who felt pleasure and arousal also self-reported more learning. Although results for this hypothesis indicate that pleasure and arousal are significantly and positively related to learning, one might have expected the unique variance in learning accounted for by arousal to exceed 2 percent. It should be noted, however, that for pleasure to emerge as the first and most important factor, followed by arousal, and dominance is consistent with previous implicit communication research (Mehrabian & Russell 1974). Further, an examination of arousal's correlation with pleasure (r=.59) indicates a strong overlap.

The importance of arousal is further evidenced by the correlations between that dimension and learning. Although the values are lower than those for pleasure, arousal correlates moderately with cognitive (r=.45) and affective (r=.48) learning. As a reference point, arousal's association with learning was as strong as verbal teacher immediacy and stronger than nonverbal teacher immediacy. Although it's effects seem dwarfed by those of pleasure, arousal appears as important to learning as either verbal or nonverbal teacher immediacy, and should not be dismissed.

Hypotheses 4 & 5: Immediacy, Power, and Implicit Communication Theory

Hypothesis four and five were confirmed. Teachers who employ immediate and prosocial BAT behaviors provoke in their students increased feelings of pleasure and arousal. Student emotional response accounts for more variance in learning than does teacher immediacy. Specifically, pleasure accounted for most of the variance in learning and verbal teacher immediacy

added an additional 1 to 4 percent: Arousal, dominance, and nonverbal teacher immediacy each accounted for less than 2 percent. Therefore, pleasure is the strongest predictor of learning followed by arousal, verbal teacher immediacy, and nonverbal teacher immediacy.

Implicit communication theory holds that this increase in pleasure and arousal leads to increases in liking, and liking in turn encourages one to physically or psychologically approach the teacher and subject matter. Indeed, in this study students who felt more pleasure and arousal also learned more presumably because they felt closer to the instructor and material.

These results permit greater clarification of the previously established relationship among teacher immediacy and power in the classroom (Plax et al., 1986). Specifically, perceptions of power cues are mediated by teacher immediacy behaviors. through student emotions. That is, teacher immediacy and power function primarily by increasing physical or psychological approach through their effects on pleasure and secondarily by accelerating that approach through arousal. Due to limitations in measurement discussed above, how dominance effects the function of teacher immediacy and power is not certain. In general, however, findings of the fourth and fifth hypotheses support the theory that teacher immediacy and power function by increasing student emotions of pleasure and arousal. By explaining how teacher immediacy and power function, implicit communication theory offers increased conceptual coherency. A better understanding of the sequence of events that follow immediate behaviors leads to a clearer picture of where teacher immediacy as a variable ends and others, such as solidarity, begin. Teacher immediacy may now be more accurately viewed as separate from and a producer of solidarity (Beebe & Biggers, 1990). That is, by producing feelings of pleasure, arousal, and dominance that cause students to feel more liking, teacher immediacy may cause students to feel more solidarity. This example supports the notion that the application of implicit communication theory to instructional variables is potentially fruitful.

Stronger operationalizations of teacher immediacy and power behaviors are also possible by examining the exploratory variables of pleasure, arousal, and dominance. Further, in behavior

variables such as humor that exhibit a complex relationship with learning (Gorham & Christophel, 1990), this approach may provide simplification.

By considering implicit communication theory and teacher immediacy and power, the heuristic benefit becomes clear. Findings suggest that something more than teacher immediacy and power usage effect students' emotions that are characteristic of learning. Through examining other teacher behaviors, and considering the effects of these behaviors on student feelings of pleasure, arousal, and dominance, new and important teacher effectiveness variables may be isolated.

Implicit communication theory also increases our knowledge of pedagogy with regard to teacher immediacy and power. This study has isolated specific teacher immediacy behaviors and BAT's that directly effect student feelings of pleasure and arousal. Instructors that praise/offer feedback on work, show a willingness and interest in talking with students, address them by first name, and employ inclusive pronouns such as "our" class and what "we" must do, nonverbally display vocal expressiveness, smiling, relaxed body posture, and varied gestures and movements, and employ prosocial BAT's foster feelings of pleasure and arousal in students. Increases in pleasure and arousal enhance student learning by increasing students' liking for the instructor primarily and subject matter secondarily.

Future research should investigate the application of implicit communication theory to other instructional variables. Just how these variables effect students' emotion is still unclear. Further, such investigations promise to increase conceptual coherence, better define and operationalize these variables, clarify how they are interrelated, and lead to other, as of yet unidentified variables.

More work is needed to obtain a reliable measure for the dimensions of pleasure, arousal, and particularly dominance in the classroom. The three dimensions may be more appropriate for the classroom if they are first defined, and then followed by Likert-type scales or bipolar adjective pair scales similar to scales measuring affective learning developed by McCroskey et al, (1985). Another approach might be to ask students to provide terms that make sense to them in the classroom environment. From those terms one might generate a scale similar to the one imployed here, but more apropriate to the classroom.

Clearly one limitation to the present research lies in the measurement of the dominance dimension. Because dominance measures were not reliable, and because there may have been confusion over similarities among the measures of pleasure, arousal, and dominance, a different strategy for operationalizing student emotion seems warranted. As noted above, by providing an operationalization of dominance that is context specific, these measurement problems may be reduced.

Exploring the use of physiological measures of pleasure, arousal, and dominance such as facial expressions, pulse rate, and body symmetry as well as new self-assessment measures such as Continuous Affective Response Technology (Ivy et al. 1991) should be further investigated. If more effective ways of measuring student emotions can be isolated, investigations of teacher variables that effect student emotions will benefit.

Previous research indicates that variables such as student ethnicity (Sanders & Wiseman, 1990) and instructor gender (Gorham & Christophel, 1990) effect teacher immediacy. More replication coupled with also measuring student emotional response may help explain previous findings.

Future research identifying teacher behaviors associated with student arousal and dominance is needed. Additionally, research should investigate the effects of nonteaching variable sets such as quality of instruction and classroom climate on student pleasure, arousal, and dominance.

Conclusion

In this study, the relationship among student emotions and learning has been investigated via the framework of implicit communication theory. Increases in student pleasure and arousal levels are positively associated with cognitive and affective learning. These findings lend credibility to the application of implicit communication theory to the classroom. Because learning is associated with student emotions, implicit communication theory is a more direct way of investigating specific variable's effects on learning. Therefore, by integrating instructional research into the implicit communication theoretical framework, increased clarity and precision result.

Teacher immediacy and power usage can be explained by the assumptions underlying implicit communication theory. That is, teacher immediacy and power use can be explained by variations in student emotional response to instruction. This suggests that teacher immediacy and power behaviors function by implicitly communicating liking to students causing in students an increase in pleasure, arousal, and dominance, indicative of a reciprocal liking. This reciprocal liking in turn leads to physical and/or psychological approach and activity behaviors characteristic of increased student learning. Such clarification is important because it helps define and clarify what teacher immediacy and power cues are, what they effect, and how they function. Further, the application of implicit communication theory to instructional variables provides the possibility of isolating other variables that may effect learning and lead to a stronger more complete prescription of effective teaching. Such research makes explaining teacher immediacy and power usage to the teachers of tomorrow easier by providing an explanation that is parsimonious and easy to assimilate The vary articulation of "teachers teaching teaching to teachers" suggests the confusing nature of the task. All efforts to clarify are of great value.

Selected Bibliography

Andersen, J. F. (1978). The relationship between teacher immediacy and teaching effectiveness. Unpublished doctoral dissertation. West Virginia University, Morgantown, WV.

Andersen, J. F. (1979). Teacher immediacy as a predictor of teaching effectiveness. In D. Nimmo (Ed.), *Communication Yearbook, 3*, (pp. 543-559). New Brunswick, NJ: Transaction Books.

Andersen, J. F., Norton, R. W., & Nussbaum, J. F. (1981). Three investigations exploring the relationship between perceived teacher communication behaviors and student learning. *Communication Education, 30*, 377-392.

Andersen, J. F. & Withrow, J. G. (1981). The impact of lecturer nonverbal expressiveness on improving mediated instruction. *Communication Education, 30*, 342-353.

Beebe, S. A. & Biggers, T. (1986). The relationship of trait and state emotion: Emotional response to "The Day After." *World Communication, 15*, 31-40.

Beebe, S. A. & Biggers, T. (1988). Emotion-eliciting qualities of speech delivery and their effects on credibility and comprehension. Paper presented at the annual meeting of the International Communication Association, New Orleans, LA.

Beebe, S. A. & Biggers, T. (1990). Applications of implicit communication theory for the classroom. Paper presented at the annual meeting of the International Communication Association in Dublin, Ireland.

Biggers, T., Beebe, S. A., & Masterson, J. (1984). Specification of the relationship between emotional response and television viewing behavior, or "how does it make you feel?" Paper presented in the annual meeting of the Speech Communication Association, Washington D.C.

Christophel, D. M. (1990). The relationships among teacher immediacy behaviors, student motivation, and learning. *Communication Education, 39*, 323-340.

Civikly, J. M. (1989). Humor and teaching; The first years of teaching. Paper presented at the Annual Meeting of the Speech Communication Association in San Francisco, November, 1989.

Gorham, J. (1988). The Relationship Between Verbal Teacher Immediacy Behaviors and Student Learning. *Communication Education, 37*, 40-53.

Gorham, J. & Christophel, D. M. (1990). The relationship of teachers' use of humor in the classroom to immediacy and student learning. *Communication Education, 39*, 46-62.

Gorham, J., Kelley, D. H., & McCroskey, J. C. (1989). The affinity-seeking of classroom teachers: A second perspective. *Communication Quarterly, 37*, 16-26.

Gorham, J. & Zakahi, W. R. (1990). A comparison of teacher and student perceptions of immediacy and learning: Monitoring process and product. *Communication Education, 39*, 355-368

Ivy, D. K., Beebe, S. A. , Friedrich, G., Javidi, M., & Biggers, T. (1991). Using Continuous Affective Response Technology (CART) in testing implicit communication theory in the classroom. Paper presented at the annual meeting of the Speech Communication Association, Atlanta, 1991.

Ivy, D. K., Long, L., & Javidi, M., (1992). Overcoming research design problems via methodological integration: Use of computer assisted technologies in studying teacher behaviors. Paper presented at the annual meeting of the International Communication Association, Miami, 1992.

Kearney, P., Plax, T. G., Richmond, V. P., & McCroskey, J. C. (1985). Power in the classroom III: Teacher communication techniques and messages. *Communication Education, 34*, 19-28.

Kearney, P., Plax, T. G., Smith, V. R., & Sorensen, G. (1988). Effects of teacher immediacy and strategy type on college student resistance to on-task demands. *Communication Education, 37*, 54-67.

Kearney, P., Plax, T. G. & Wendt-Wasco, N. J. (1985). Teacher immediacy for affective learning in divergent college classes. *Communication Quarterly, 33*, 61-74.

Kelley, D. H. & Gorham, J. (1988). Effects of immediacy of recall of information. *Communication Education, 37*, 198-207.

McDowell, E. E., McDowell, C. E., & Hyerdahl, J. (1980). A multivariate study of teacher immediacy, teaching effectiveness and student attentiveness at the junior high and senior high levels. Paper presented at the meeting of the Speech Communication Association, NY.

Mehrabian, A. (1966). Immediacy: An indicator of attitudes in linguistic communication. *Journal of Personality, 34*, 26-34.

Mehrabian, A. (1967). Attitudes inferred from non-immediacy of verbal communications. *Journal of Verbal Learning and Verbal Behavior, 6*, 294-295.

Mehrabian, A. (1969). Some referents and measures of nonverbal behavior. *Behavioral Research Methods and Instrumentation, 1*, 213-217.

Mehrabian, A. (1971). *Silent messages*. Belmont, CA: Wadsworth.

Mehrabian, A. (1972). *Nonverbal communication*. Chicago, IL: Aldine.

Mehrabian, A. (1980). *Basic Dimensions for a General Psychological Theory: Implications for personality, social, environmental, and developmental studies*. Cambridge, MA: Oelgeschlager, Gunn & Hain Publishers.

Mehrabian, A. (1981). *Silent messages: Implicit communication of emotions and attitudes*. Bellmont, CA: Wadsworth.

Mehrabian, A. & Russell, J. A. (1974). *An approach to environmental psychology*. Cambridge, MA: MIT Press.

Mehrabian, A. & West, S. (1977). Emotional impact of a task and its setting on work performance of screeners and nonscreeners. *Perceptual and Motor Skills, 45*, 895-909.

Mehrabian, A. & Williams, M. (1969). Nonverbal concomitants of perceived and intended persuasiveness. *Journal of Personality and Social Psychology, 13*, 37-58.

Osgood, C. E., Suci, B. J,. & Tannenbaum, P. H. (1957). *The measurement of meaning*. Urbana: University of Illinois Press.

Plax, T. G., Kearney, P., Downs, T. M., & Stewart, R. A. (1986). College student resistance toward teachers' use of selective control strategies. *Communication Research Reports, 3*, 20-27.

Plax, T. G., Kearney, P., McCroskey, J. C. & Richmond, V. P. (1986). Power in the classroom VI: Verbal control strategies, nonverbal immediacy and affective learning. *Communication Education, 35*, 43-55.

Plax, T. G., Kearney, P., & Tucker, L. (1986). Prospective teachers' use of behavior alteration techniques on common student misbehaviors. *Communication Education, 35*, 32-42.

Powell, R. G. & Harville, B. (1990). The effects of teacher immediacy and clarity on instructional outcomes: An instructional assessment. *Communication Education, 39*, 369-379.

Richmond, V. P. (1990). Communication in the classroom: Power and motivation. *Communication Education, 39*, 181-195

Richmond, V. P., Gorham, J. S., & McCroskey, J. C. (1987). The relationship between selected immediacy behaviors and cognitive learning. In M. L. McLaughlin (Ed.) *Communication Yearbook 10*, (pp.574-590), Beverly Hills, CA: Sage.

Richmond, V. P. & McCroskey, J. C. (1984). Power in the classroom II: Power and learning. *Communication Education, 33*, 125-136.

Richmond, V. P., McCroskey, J. C., Davis, L. M., & Koontz, K. A. (1980). Perceived power as a mediator of management communication style and employee satisfaction: A preliminary investigation. *Communication Quarterly, 28*, 37-46.

Richmond, V. P., McCroskey, J. C., Kearney, P. & Plax, T. G. (1987). Power in the classroom VII: Linking behavior alteration techniques to cognitive learning. Paper presented at the annual meeting or the Speech Communication Association in Denver, CO.

Rodgers, M. A., & McCroskey, J. C. (1984). Nonverbal immediacy of teachers in classroom environments. Paper presented at the meeting of the Eastern Communication Association, Philladelphia, March, 1984).

Sanders, J. A. & Wiseman, R. L. (1990). The effects of verbal and nonverbal teacher immediacy on perceived cognitive, affective, and behavioral learning in the multicultural classroom. *Communication Education, 39*, 341-353.

Sorensen, G. (1989). The relationships among teachers: Self disclosive statements, student perceptions, & affective learning. *Communication Education, 38*, 259-276.

Stewart, R. A. & Wheeless, L. R. (1987). Relationship between teacher immediacy and student/teacher solidarity: Its generalizablilty across divergent instructional contexts. *Communication Research Reports, 4,* 47-52.

Wheeless, L. R. (1977). A follow-up study of the relationships among trust, disclosure, and interpersonal solidarity. *Human Communication Research, 4,* 143-157.

Woolfolk, R. L. & Woolfolk, A. E. (1974). Effects of teacher nonverbal behaviors on student perceptions and attitudes. *American Educational Research Journal, 11,* 297-303.

Zajornic, R.B. (1968). Attitudinal effects of mere exposure. *Journal of Personality and Social Psychology Monograph Supplement, 9,* 1-27.

Table 1

Reliabilities for Dependent Measures

Attitude:	
Content	.87
Behaviors	.91
Instructor	.96
Overall Attitude	.94
Behavioral intent:	
Content	.96
Behaviors	.94
Instructors	.97
Overall Behavior	.93
Total Affect	.96

Table 2

Multiple Regression Results for Extraneous Variables on Total Affect Expressed in Variance Accounted For

	F	P	R Squared
Talk			
Teacher	.026	.8711	0.0000
Student	.738	.3907	0.0009
No one	1.093	.2961	0.0013
Teacher			
gender	.491	.4835	0.0008
ethnicity	5.275	.0220	0.0089
Student			
ethnicity	3.087	.0794	0.0038
gender	2.446	.1184	0.0041
classification	4.911	.0271	0.0083
age	2.656	.1037	0.0045

Table 3

Means by Class Size

	Small	Medium	Large
Affective learning			
Attitude	31.6	33.5	32.4
Intent	38.0	39.7	40.3
Total Affect	69.6	73.2	72.7
Immediacy			
Verbal	34.8	31.0	27.8
Nonverbal	31.0	30.8	31.2
Emotion			
Pleasure	27.8	27.5	26.6
Arousal	32.9	32.4	32.7

Table 4

Learning Accounted for Verbal and Nonverbal Immediacy (Beta Weights and Variance Partialed)

	Verbal	Nonverbal	Colinearity	VAF/Rsqr
Learning*				
Variance	4.3	4.1	11.8	20.2
Beta	.225†	.249†	—	.202
Learning Loss*				
Variance	7.6	1.5	8.9	18.0
Beta	-.320†	-.148‡	—	.180
Attitude*				
Variance	8.6	4.5	18.0	31.1
Beta	.361	.263†	—	.311
Intent*				
Variance	10.1	1.6	11.8	23.5
Beta	.392†	.158†	—	.235
Total Affect*				
Variance	13.0	4.5	13.5	31.1
Beta	.396†	.223†	—	.311

* The model is significant at <.0001
† The coefficient is significant at <.0001
‡ The coefficient is significant at <.001

Table 5

Correlations of Immediacy with Learning Measures

	Attitude	Intent	T. Affect	Cog	Loss
Total VI	.52*	.49*	.53*	.40*	-.41*
VI 1	.21*	.19*	.21*	.17*	-.15**
VI 2	.37*	.32*	.36*	.27*	-.33*
VI 3	.21*	.19*	.21*	.17*	-.19*
VI 4	.30*	.21*	.26*	.23*	-.21*
VI 5	.33*	.35*	.36*	.25*	-.26*
VI 6	.30*	.32*	.33*	.24*	-.24*
VI 7	.33*	.37*	.37*	.32*	-.26*
VI 8	.44*	.40*	.44*	.34*	-.33*
VI 9	.34*	.32*	.35*	.25*	-.28*
VI 10	.17*	.20*	.19*	.15**	-.16**
VI 11	.34*	.33*	.35*	.28*	-.26*
VI 12	.35*	.31*	.35*	.29*	-.29*
VI 13	.41*	.36*	.40*	.28*	-.32*
VI 14	.49*	.43*	.49*	.33*	-.34*
VI 15	.21*	.21*	.22*	.18*	-.14**
VI 16	.23*	.14**	.14**	.07	-.10
Total NVI	.48*	.39*	.45*	.40*	-.34*
NVI 1	.14**	.10	.13**	.09	-.10
NVI 2	.29*	.25*	.28*	.26*	-.20*
NVI 3	.27*	.20*	.24*	.23*	-.21*
NVI 4	.35*	.24*	.31*	.28*	-.24*
NVI 5	.41*	.32*	.38*	.32*	-.33*
NVI 6	.22*	.17*	.20*	.21*	-.11
NVI 7	.15**	.18*	.17*	.14**	-.14**
NVI 8	.27*	.26*	.28*	.26*	-.22*
NVI 9	.11	.08	.10	.06	-.02
NVI 10	.11	.08	.10	.11	-.15**
NVI 11	.31*	.27*	.30*	.22*	-.22*
NVI 12	.36*	.31*	.35*	.31*	-.29*
NVI 13	.43*	.37*	.42*	.34*	-.34*

*p<.0001
**p<.001

Table 6
Coorelations for BAT's and Cognitive Learning

BAT	Learning	Loss
1	.24**	.23**
2	.15**	.14**
3	.10	.10
4	.05	.03
5	.18**	.21**
6	.09	.09
7	.15**	.22**
8	.02	.02
9	.01	.02
10	.02	.02
11	.07	.06
12	.18**	.17**
13	.10	.11
14	.06	.01
15	.03	.04
16	.04	.02
17	.02	.02
18	.05	.06
19	.02	.03
20	.07	.04
21	.05	.06
22	.24**	.21**

*p<.01
**p<.001

Table 7
Correlations for BAT's and Affective Learning

BAT's	Con	Beh	Ins	Hbeh	Hcon	Hins	Att	Int	Total
1	.29**	.25**	.28**	.21**	.23**	.30**	.31**	.32**	.33**
2	.17**	.15**	.19**	.21**	.23**	.30**	.19**	.25**	.23**
3	.11*	.09	.10	.10	.11*	.10	.12*	.13**	.13**
4	.07	.11*	.07	.09	.08	.07	.10	.10	.10
5	.18**	.20**	.25**	.19**	.21**	.25**	.24**	.28**	.27**
6	.11	.14**	.13**	.05	.05	.13**	.14**	.10	.13**
7	.17**	.17**	.29**	.11	.08	.19**	.24**	.17**	.22**
8	.02	.04	.06	.02	.03	.06	.04	.05	.05
9	.03	.06	.01	.03	.01	.00	.04	.02	.03
10	.02	.05	.02	.05	.05	.04	.03	.06	.05
11	.06	.00	.07	.01	.00	.06	.05	.03	.04
12	.20**	.21**	.21**	.09	.06	.17**	.23**	.14**	.20**
13	.18**	.16**	.21**	.13**	.11	.15**	.21**	.15**	.19**
14	.04	.04	.01	.05	.10	.00	.03	.05	.04
15	.01	.01	.02	.03	.02	.02	.01	.00	.01
16	.00	.03	.03	.02	.04	.01	.02	.01	.00
17	.07	.07	.01	.06	.03	.00	.06	.04	.05
18	.04	.00	.07	.01	.03	.00	.06	.04	.05
19	.04	.00	.07	.01	.03	.05	.04	.05	.05
20	.09	.03	.13**	.05	.03	.12*	.10	.09	.10
21	.05	.06	.02	.06	.04	.00	.03	.03	.03
22	.22**	.17**	.27**	.15**	.14**	.20**	.25**	.21**	.24**

*p<.01
*p<.001
Variable List: Affect toward content (Con), behaviors recommended (Beh), and instructor (Ins), Behavioral intent toward behaviors recommended (Hbeh), content (Hcon) and instructor (Hins), Overall attitude (Att), Overall intent (Int), and Total affect (Total).

Table 8
Learning Accounted for by Pleasure and Arousal
(Beta Weights and Variance Partialed)

	Pleasure	Arousal	Colinearity	VAF/Rsqr
Learning*				
Variance	14.5	1.8	18.1	34.4
Beta	.472†	.168†	—	.344
Learning Loss*				
Variance	8.9	1.4	11.7	22.0
Beta	-.369†	-.146‡	—	.220
Attitude*				
Variance	28.6	.4	21.3	50.3
Beta	.66†	.075	—	.503
Intent*				
Variance	19.3	1.0	18.6	38.9
Beta	.544†	.121	—	.389
Total Affect*				
Variance	33.9	1.5	13.7	49.1
Beta	.632†	.107	—	.491

*The model is significant at <.0001
†The coefficient is significant at <.0001
‡The coefficient is significant at <.001

Table 9

Correlations of Emotion Items with Learning Measures

	Attitude	Intent	T. Affect	Cog	Loss
Pleasure					
total items	.71*	.62*	.70*	.58*	-.46*
1 Happy-Unhappy	.67*	.59*	.66*	.54*	.45*
2 Pleased-Annoyed	.56*	.47*	.54*	.44*	-.34*
3 Satisfied-Unsatisfied	.63*	.55*	.62*	.54*	-.45*
4 Contented-Melancholic	.27*	.23*	.26*	.21*	-.10
5 Hopeful-Despairing	.58*	.51*	.57*	.43*	-.58*
6 Relaxed-Bored	.54*	.48*	.54*	.48*	-.54*
Arousal					
total items	.47*	.45*	.48*	.45*	-.37*
1 Stimulated-Relaxed	-.01	.04	.02	.03	-.01
2 Excited-Sluggish	.25*	.23*	.25*	.28	-.25*
3 Frenzied-Calm	.25*	.24*	.26*	.25*	-.17*
4 Jittery-Dull	.31*	.28*	.31*	.31*	-.28*
5 Wide awake-Sleepy	.46*	.45*	.48*	.41*	-.31*
6 Aroused-Unaroused	.53*	.48*	.53*	.47*	-.40*
Dominance					
total items	.09	.12**	.11	.04	-.05
1 Controlling-Controlled	.24*	.25*	.23*	.23*	-.22*
2 Infuential-Influenced	-.09	-.05	-.07	-.13**	-.06
3 In control-Cared for	-.01	.00	-.01	.01	.00
4 Important-Awed	.24*	.20*	.23*	.18*	-.14**
5 Dominant-Submissive	.23*	.22*	.24*	.20*	-.13**
6 Autonomous-Guided	-.30*	-.22*	-.27*	-.31*	-.23*

*p<.0001
**p<.001

Table 10

Variance in Learnaing Accounted for by Implicit Communication Theory and Immediacy (Variance Partialed)

	Pleasure	Arousal	NVI	VI	Colinearity	VAF
Learning	12.9**	1.8*	0.9	1.1*	18.3	35.0
Learning Loss	05.2**	1.4*	0.9	3.6**	14.5	25.6
Overall Attitude	18.0**	0.0	0.2	31.**	30.3	51.6
Intent	10.9**	0.4	0.5	3.5**	25.3	40.6
Total Affect	15.6**	0.3	0.0	3.7**	19.6	31.2

*p<.01
**p<.0001

Table 11

Correlations of Implicit Communication Theory Variables with Immediacy Items

	Pleasure	Arousal	Dominance
Immediacy items			
Verbal			
1	.23*	.18*	.05
2	.34*	.27*	.09
3	.21*	.16**	.10
4	.28*	.18*	.01
5	.30*	.25*	.10
6	.27*	.24*	.11
7	.35*	.31*	.13
8	.44*	.26*	.07
9	.30*	.24*	.06
10	.20*	.23*	.02
11	.39*	.25*	.03
12	.34*	.21*	.02
13	.39*	.27*	.01
14	.49*	.32*	.10
15	.20*	.12	.09
16	.11	.13	.05
Immediacy items			
Nonverbal			
1	.12	.08	.03
2	.32*	.24*	.04
3	.43*	.29*	-.07
4	.23*	.22*	.06
5	.32*	.24*	.07
6	.15**	.12	-.02
7	.23*	.22*	-.05
8	.32*	.24*	-.07
9	.15**	.12	-.05
10	.12	.06	-.02
11	.34*	.15**	-.08
12	.35*	.26*	-.04
13	.47*	.34*	-.01

**p<.001
*p<.0001

TABLE 12
Multiple Regressions of Implicit Communication Variables and BAT's on Learning Measures

COGNITIVE LEARNING

Step	Variable Entered	R Square	P
1	Pleasure	.33	.0000
2	Arousal	.34	.0000
3	BAT 12	.37	.0012
4	BAT 22	.35	.0025

COGNITIVE LEARNING LOSS

Step	Variable Entered	R Square	P
1	Pleasure	.21	.0000
2	BAT 7	.22	.0008
3	BAT 5	.23	.0009
4	Arousal	.25	.0022
5	BAT 12	.26	.0165
6	BAT 22	.26	.0205

TOTAL AFFECTIVE LEARNING

Step	Variable Entered	R Square	P
1	Pleasure	.48	.0000
2	BAT 2	.50	.0000
3	BAT 5	.51	.0012
4	BAT 12	.52	.0020
5	BAT 13	.52	.0359
6	BAT 6	.52	.0373
7	Arousal	.52	.0418
8	BAT 22	.53	.0397